THE JOURNAL
OF THE
Kansas Medical Society.

Vol. X. KANSAS CITY, KANSAS, JULY, 1910. No. 7

THE USE OF TUBERCULIN IN THE DIAGNOSIS OF TUBERCULOSIS.

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Read before the Kansas Medical Society, May 4, 1910.

In reviewing the literature on the use of tuberculin in diagnosis one is struck by the diversity of opinion on the part of excellent authors regarding the reliability of the different tests. We have all variations from those who deny the specificity of tuberculin and hence hold that its use has no diagnostic value to those who like Wolff-Eisner, ascribe to tuberculin not only a high diagnostic value but a prognostic as well. However, if we summarize the opinions of the majority we find the prevailing view is that the tuberculin reaction is specific, though not necessarially so to an active lesion, and that this specific action may be demonstrated in the lower animals as well as in man.

It is not the intention of this paper to review the very many recent articles on this subject, but merely to bring forward some practical considerations which may be of use to the physician who has to do with tuberculous cases.

First we know that tuberculin, in order to bring about a reaction, should be so far introduced into the body that it may readily be taken up by the lymph or blood channels; second, we recognize that the tuberculin test, like all biological tests, depends on the quantity as well as on the quality of the substance employed. It is evident then that the opthalmo test of Calmette and Wolff-Eisner, the cutaneous of von Pirquet and the percutaneous of Moro suffer a disadvantage in that it is impossible, practically at least, to accurately guage the quantity of tuberculin injected. We can only approximate quantitative results in the dilution of

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the tuberculin employed and in the length of time it is kept in contact with the absorbing surfaces, the mucous membrane or the abraded skin. To minimize the sources of error one should, for a comparative series at least, adopt some constant method of carrying out each test, and should use a standard tuberculin and uniform dilutions constant in value and not allowed to deteriorate in keeping. To the practictioner who finds only occasional use for tuberculin diagnosis uniformity in method is likely to give better results than experimentation with a variety of methods which can be advantageously employed only where a comparatively large clinic is to be had.

We may assume that all who hear this paper are familiar with the common methods of application of tuberculin in diagnosis and we shall give only some practical points which may be of assistance in the several methods.

In the Calmette, or opthalmo, test, authors are now using Koch's old tuberculin diluted. In the Johns Hopkins Hospital clinic for tubercular patients, where the writer had opportunity for making extended observations last summer, a one per cent dilution of old tuberculin is used for the first instillation and, in case this is negative, a second instillation of a five per cent dilution is made in the other eye. The least abnormality of the eye is regarded as a contraindication. Out of a series of 1500 instillations made in this clinic but one untoward result has been observed. Some writers report a much larger proportion of bad results and it must be conceded that the method is not without danger in the presence of active or latent eye disease and in healthy eyes where instillations are several times repeated in the same eye.

In the von Pirquet cutaneous test application is most commonly made on the skin of the inner side of the forearm. A drop of old tuberculin undiluted, or a 25% dilution of this tuberculin, is placed on the skin previously cleansed with alcohol. With a sterilized instrument a small abrasion is first made in the skin two inches or so from the tuberculin drop to serve as a control, and the same amount of abrasion is made in the drop. In von Pirquet's clinic the abrasion is made with a special instrument. In the Johns Hopkins clinic a slight incision is made with a sharp scalpel, not deep enough to draw blood. An advantage claimed for the latter method, in children practice at least, is that it is done very quickly and without pain.

In the Hopkins clinic the tuberculin is left on at least five

minutes with a very small wisp of cotton to keep it in place. It is then wiped off and no bandage or plaster is used.

The Moro or ointment test is used commonly only when the patient refuses to submit to any kind of inoculation. According to the method of Roepke and Bandelier, the skin preferably of the forearm, should be first freed from grease by ether. A piece of ointment about the size of a pea is rubbed over an area of about two inches in diameter for one-half to one minute. The ointment has the advantage of always being ready for use. It may be kept for months in the refrigerator unimpaired. It has the disadvantage of being a much less sensitive reagent than the von Pirquet and more liable to error due to variability in the character of the skin of different persons. Rubbing alone may bring out a slight rash and it is well to control the test with a rubbing of lanolin alone. My own skin, rubbed with a mixture of white of egg and lanolin, gives a reaction closely resembling a positive Moro.

There are practically no contraindications for the von Pirquet or Moro tests. A few observers report some reaction with scrofulous children and some slight systemic reactions have been reported. in cases where the scalpel was used in scarification and presumably a larger amount of tuberculin introduced.

The original Koch subcutaneous test is by most authors regarded as the most reliable test for adults. It has the great advantage of allowing the use of measurable doses and in some cases of giving a focal reaction which enables the physician to determine not only the presence of tuberculosis but also its seat. It has the disadvantage of being unavailable in case temperature is present and of being limited by other contraindications. More skill is required in its administration on the part of physician and the patient must be under careful observation before and after inocculation and may suffer some inconvenience in case of a positive reaction. In the hands of careful persons it seems very rarely to be followed by untoward results. Loewenstein in a material of 20,000 subcutaneous injections has never had a serious result. Contraindications are larynx tuberculosis, heart disease, diabetes, nephritis and pregnancy.

In the John Hopkins clinic $\frac{1}{5}$ mg of tuberculin is employed as a first dose and is followed by a dose of 1 mg in case the first proves negative. It is interesting to note that in this clinic, consisting largely of out-patients, the patient is given a blank and taught to take his own temperature. The method is made more feasible by visiting nurses who see that directions are properly carried out.

Loewenstein also begins with $\frac{1}{5}$ mg, but in case of a negative reaction repeats the same dose. In continually negative cases the dose is repeated four times. Koch's more recent method, followed by many authors, is to begin with a dose of 0.1 to 1.0 mg according to the age and strength of the patient. This is given in the forenoon and under the skin of the back. If the first dose is negative it is followed by a doubled dose not on the following but on the next following day. If a rise of temperature of only $\frac{1}{4}$ of a centigrade degree appears the same dose is repeated after temperature has returned to the normal. Often the reaction following this second dose is much stronger than the first slight reaction to the same quantity of tuberculin. Koch holds that any reaction to a dose under 10mg is specific.

Bandelier and Roepke begin with $\frac{1}{5}$ mg and in case this is negative follow with 1.0 mg, 5 mg, and finally with 10mg as the fourth and last dose. Children are given one-half the above quantities.

Some physicians hestitate to use tuberculin in diagnosis because of supposed technical difficulties in the preparation of the material. In the cutaneous applications no such difficulties occur. One has only to purchase a standard tuberculin and for the von Pirquet test use it undiluted or diluted to 25%. If aseptic precautions are used in opening the bottle and removing material the unused portion may be kept for weeks in the refrigerator unimpaired. Dilutions may be kept for some days in the cold, Bandelier and Roepke say at least a week, but they should never be used if they have become cloudy.

If one has any doubts as to sterility of dilutions these may, if made with old tuberculin, be heated until bubbles rise just before use. Moro's salve may be purchased ready made or quickly prepared with anhydrous lanolin. The lanolin is warmed to 20 or 30 degrees centigrade and an equal part of old tuberculin worked gradually in with the spatula.

For the subcutaneous test one can with two graduated pipettes easily make a 1:100 dilution and from this a 1:1000. From the latter dilution the doses can be easily measured, Petrushsky uses a graduated syringe in place of the pipettes in making dilutions. One can of course employ a pharmacist to prepare doses of known strength.

As regards the indications for the different tests the cutaneous tests may be used in any case and at any time, since there are no contraindications. The opthalmo test may be used alone or in connection with the von Pirquet test when the precautions men-

tioned above are noted. There should be no eye lesion, however small, the same dose should not be repeated in the same eye, and a standard tuberculin properly diluted should be employed. The Moro test, apparently less reliable than the von Pirquet test, should be used only when objections on the part of the patient forbids the von Pirquet. The subcutaneous test is best deferred until other means of diagnosis have been found insufficient. Contraindications have been given above.

One precaution in the use of tuberculin is suggested by an interesting observation described to me by Dr. Lawrason Brown of the Adirondack Cottage Sanatorium. In inoculating tuberculin it is often necessary to raise the needle and expel bubbles of air before reading. It was found that if this air is expelled forcibly enough to cause a spray a decided reaction may occur in patients who inhale the spray. Dr. Baldwin of Saranac also told of a violent reaction which both he and an assistant obtained from breathing the dust of tubercle bacilli which were being ground in a mortar.

Further, in tuberculin tests hypersensitiveness must be taken into account. This is well illustrated in positive reactions obtained by a second or third instillation into the same eye when the first instillation is negative. In a series of experiments which I carried out with the Moro ointment I found a number of cases in which a first inunction was negative while later inunctions were decidedly positive. Some persons failed to hypersensitize after repeated inunctions. The views of authors regarding positive reactions obtained only on repeated tests is different. Some, as Bandelier and Roepke hold that in the clinically and anatomically non tuberculous hypersensitiveness cannot be induced. They hold that no patient can be declared wholly non tuberculous by the Calmette test until the fourth instillation repeated in the same eye has proved negative.

We will briefly consider the all important question of interpretation of results. It is assumed that the characteristics of the different positive results are well known and need not be repeated here.

A positive von Pirquet in adults can at best indicate only a previous infection with the bacillus of tuberculosis and can give little light on the question as to whether the infection is healed or not. A negative reaction has much more value in adults. In the statistics of Bandelier and Roepke 97% to 98% of tuberculous adults showed a positive von Pirquet. In children a positive as well as a negative von Pirquet has much value. The statistics

of von Pirquet show that in a series of children coming to autopsy 97 % of those who showed a positive cutaneous reaction showed microscopic tuberculous lesions at autopsy and of those who presented no such lesions at autopsy all had proved negative to the skin test. It is to be remembered that this test may prove negative in chlidren if applied during an attack of measles.

In the less sensitive Calmette reaction the negative reaction in adults has less value. In the statistics of Bandelier and Roepke a positive Calmette was obtained in only about ½ of the cases of active incipient tuberculosis.

While few authors agree with Wolff-Eisner in regarding the positive opthalmo reaction as an absolute indication of an active lesion, a positive reaction is generally given more weight than the negative. In the Johns Hopkins clinic both the von Pirquet and Calmette are done as a matter of routine. Little weight is given a positive von Pirquet in adults but a negative von Pirquet or a positive Calmette is considered to have decided diagnostic value.

While both the positive and the negative subcutaneous reaction is regarded by most writers as the most valuable of the tuberculin reactions, there is abundant evidence to show that a general systemic reaction does not necessarially mean an active process, nor does a negative reaction absolutely exclude tuberculosis. Where there is a distinct and characteristic focal reaction the positive test is of the greatest diagnostic value and may be ranked with a finding of bacilli.

It is of course understood that all tuberculin reactions are likely to fail in advanced cases. This failure is of little practical importance since tuberculin diagnosis is largely useful in the recognition of incipient cases. The distinction between active and healed lesions is of the greatest importance and in this the tuberculin tests, with the exception of the focal reaction after Kochs test, are commonly considered to leave us in doubt. But we must remember that if we were in posession of all anatomical and physical data we could not always draw a sharp boundary line between the harmless quiescent condition and the dangerous one, between the smouldering fire that is dying, and the one that is growing. We cannot justly demand of the tuberculin reaction that it indicate a sharp line of demarcation where no such line exists.

Lastly we would emphasize above all that any tuberculin test should be taken in connection with a careful physical diagnosis and with all other findings obtainable. It is inexcusable to tell a patient that he is free from tuberculosis on the simple evidence of a negative tuberculin test of any kind; and the positive test

should be controlled by a careful physical and bacteriological examination. A physician would not neglect the temperature curve in the diagnosis of tuberculosis, nor would he depend on the temperature alone. The tuberculin reaction should bear a similar relation to the other findings. The relative weight to be given the tuberculin test depends, of course, on the nature of the reaction, on the test used and on the age and condition of the patient; and this matter must often be decided by the diagnostician for each case individually.

In summary it may be said that the tuberculin tests are of decided value in those numerous cases in which the ordinary methods leave the physician in doubt. They present no technical difficulties insuperable for the careful practictioner. The positive von Pirquet in children, the negative in children and adults, the positive Calmette, the positive and negative subcutaneous and especially the positive subcutaneous with focal reaction have a greater value than the other tuberculin findings. No condition should be judged by the tuberculin test alone, but this should be taken only as one element in making up the diagnosis.

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ETIOLOGICAL FACTORS IN CHILDREN'S DYSENTERIES.

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Read before the Kansas Medical Society, May 5, 1910.

Children's dysenteries are of the greatest importance to us as they occur during the summer months, and by many writers on the subject are considered only as the "summer diarrheas of infancy." Many attempts have been made to classify these intestinal disturbances but generally these classifications have been unsatisfactory. With the discovery in 1898 of a bacillus of dysentery by Shiga, a specific etiological factor for at least a group of these disorders was established, and this group we can now call the group of epidemic dysentery. This group, however, does not by any means include all of the summer diarrheas of infancy, for the group of non-specific dysentery, no one causal factor has been discovered.

Before we can consider the various causes of the intestinal disturbances, we must realize that we have two large classes of causes of disease; predisposing and actual. Of these the predisposing causes reduce the vital and physical powers of the body and include such factors as age, sex, race, hygenic conditions of environment, climate, food and heredity. These factors, while

recognized, have within recent years been much neglected, while the actual causes, sometimes called exciting causes, have been much more closely studied. The exciting causes of disease, include the specific elements which may be either physical, chemical or vital. Of these, the vital causes, especially the bacteria, have added new zest to the study of these complaints.

EPIDEMIC DYSENTERY.

While Dr. Booker some years ago stated that "No single organism is found to be the specific exciter of the summer diarrheas of infants" still, today, bacillus dysenteriæ is regarded as the specific etiological factor in the group of summer diarrheas called the group of epidemic dysentery. This bacillus was discovered by Shiga in 1898 in association with a number of cases of acute diarrhea which occured in Tokio in 1897 and 1898. In 1901 this bacillus was first isolated in the United States by Duval and Vedder from the stools of a number of adults suffering with dysentery and in 1902 it was first isolated by Duval and Bassett from the stools of forty-two infants suffering with diarrhea. In 1903 the Rockefeller Institute for Medical Research, undertook the bacteriological investigation of summer diarrheas in the cities of New York, Philadelphia, Boston and Baltimore, employing for this investigation some twelve bacteriologists. In all 412 cases were studied in this investigation, and from the stools of 279 patients, or in 63.2% of the cases, bacillus dysenteriæ was isolated. Since that time numerous other investigators have isolated this bacillus from stools of children's dysenteries as well as from dysenteries in adults, especially in institutions, as, asylums and prisons. From all of the investigations, it must be concluded that as far as children's dysenteries are concerned that infection with bacillus dysenteriæ occurs under a variety of conditions, as acute, primary infection in previously well children, as subacute infection following such diseases as measles, pneumonia, etc., and as a terminal infection in children who are poorly nourished and marantic. The symptoms in the disease vary markedly from those belonging to intestinal indigestion to those of severe ileo-colitis. The stools may show only the character of a relatively mild diarrhea, while in other cases there may be marked blood, pus and mucus. The disease is not found in any one locality, occuring in about equal frequency in the large cities along the Atlantic Sea Coast, although it has been observed that there are more acute cases in the southern cities than in the cities further north. The disease is not dependent entirely upon artificial feeding for it is seen at times, in breast-fed children,

nor is the disease found entirely in tenements and among the poor, for numerous cases have been observed in children living under the best surroundings, even in country districts.

While the patients, from whose stools dysentery bacilli were isolated have shown various clinical types of disease, still dysentery bacilli have been isolated in largest numbers and most frequently from stools containing mucus, blood and pus. These cases by some, have been called "Infectious diarrhea." In investigations carried on by Knox and myself in 1904, in which 74 consecutive cases of intestinal disturbances in childhood were studied at the Thomas Wilson Sanitarium near Baltimore, dysentery bacilli were isolated from 58.3% of the cases studied, while 93.3% of the cases, the stools from which contained mucus, blood or pus, yielded bacillus dysenteriæ. Similar results have been obtained in other laboratories.

The etiological relation of bacillus dysenteriæ to the cases from which the organism is isolated, however, is not established by the mere finding of the bacillus. It has been observed right along that the number of dysentery bacilli isolated from the stool of a given patient, varies from one culture to a hundred or more isolations. This has given rise to the question whether other organisms which may be much more frequent in the stool of these cases may not be causal factors. This question is not yet solved, but it does emphasize the possibility of the development of severe cases of bacillary dysentery from mild attacks. Of the other methods of determining the causal relation of dysentery bacilli to these cases, animal experimentation has been of little value, inasmuch as our ordinary laboratory animals are not susceptible to this organism, it being impossible to produce the intestinal lesion consistently in laboratory animals. Investigations, however, on the production of antibodies, have been much more successful. Shiga, in his work of 1898 decided upon bacillus dysenteriæ as the causal factor in his cases, because serum from the patients agglutinated this species of organism. Duval and Bassett found that agglutination was positive in many cases in high dilutions, while Martha Wollstein in 1903 reported, that "the serum reaction is uncertain during the first week, frequently positive after the sixth day, but may be absent for two weeks." Winnie got positive agglutination in 65% of forty cases, from which dysentery bacilli were isolated. Knox and the author in 1904 found that sometime during the disease the blood from 47.7 % of the cases agglutinated stock cultures of the Flexner-Harris type, and 65.7% the particular type of dysentery bacilli isolated from the pa-

tient's dejecta. Lucas, Fitzgerald and the author, found positive agglutination with blood on patients in 55.5% with the Flexner Harris type and 24.4% with the Shiga type of dysentery bacilli. Furthermore fixation of complement was found in 41.8% for the Flexner-Harris type, and 45.2% for the Shiga type, while agglutination was positive and 63.1% for the Flexner-Harris organism, and 21.6% for the Shiga type of bacillus dysenteriæ. The presence of antibodies, indicates quite definitely the specificity and etiological relation of the dysentery bacillus to some cases of dysentery.

The source of infection with dysentery bacilli is frequently difficult to explain, for it is found frequently that some of the patients are breast-fed, while other children have been fed entirely on boiled, or at least on pasteurized milk. In these cases, however, it must be remembered that unboiled water may possibly have been given between feedings and that there is possibility of infection of the mouth by means of infected flies and hands. Various attempts have been made to associate epidemic dysentery with pollution of public water supplies which, although not conclusive, still are suggestive. Furthermore, a number of cases have been reported in which bacillus dysenteriæ have been found in the stools of apparently normal children. It thus seems unfair to assume that failure to find the possible source of infection argue against the causal relation between dysentery bacilli and some cases of dysentery.

Flexner and the earlier investigators after Shiga's discovery, isolated a number of organisms which they believed were the same as the organism isolated by Shiga. However, as early as 1901, MacConkey and Hill found differences in certain cultural characteristics and later, Martini and Lentz, and Hiss and Russell divided dysentery bacilli into subgroups on the basis of fermentation of various carbohydrates and the alcohol mannite. According to fermentation characteristics the group of dysentery bacilli, may be divided into two large groups, the organisms in one of which ferment mannite, while those in the other do not. The non-fermenter of mannite is represented by Shiga's original organism, is found most frequently in severe cases of dysentery, produces a soluble toxin, and occurs more frequently in adult dysentery than it does in children's dysentery in this country. The fermenters of mannite may again be divided into several groups of which the most important are represented by the organism referred to as the Flexner-Harris, Hiss's Y and Strong's isolation. This group is found most frequently associated with the dysenteries in children along the Atlantic Sea coast.

Various attempts have been made to establish the relation of the bacilli belonging to the so-called dysentery group to the diarrheal affections of infants. Experience, however, teaches us that while the largest proportion of instances of ileo-colitis and the highest mortality occur when there is more than one type of dysentery organism, still it is impossible to determine any consistent difference between the severity of the disease and particular type of mannite fermenters. The Shiga type is generally regarded as being more virulent than any of the fermenters of mannite. A further observation has been made that other organisms in association with dysentery bacilli produce a more marked diseased condition and in some cases may be responsible for the production of the the anatomical condition in the intestinal mucosa among which streptococcus pyogenes is probably the most important.

The diagnosis of epidemic dysentery is not always easy, as was pointed out in the discussion of the varying manifestations of disease in association with the presence of dysentery bacilli, in the dejecta. If we accept the clinical diagnosis of infectious diarrhea, which can always be made from the presence of mucus, blood and pus in the stools, together with fever, we will include a large percentage of the cases of dysentery bacillus infection. However, it is not to be forgotten, that while these cases are almost always associated with the presence of dysentery bacilli, the organism may also be found in cases in which there is but slight manifestation of disease. These patients may very easily be the source of infection for well children.

Specific treatment of the cases of bacillary dysentery by the use of anti-dysenteric serum, has been undertaken and accompanied by various degrees of success. The results obtained in Japan have been especially gratifying, the mortality, according to Shiga, having been reduced from 22 to 26 per cent to 9 to 12 per cent. In the United States, however, anti-dysenteric serum has been of relatively little value in the treatment of children's dysenteries. The reasons for this difference in results are not entirely explained, but are apparently partially dependent upon the kind of serum used and the time of the administration of the same. The serum which has given most satisfactory results, and the one which has been used by Shiga, is one made by immunizing animals against the Shiga type of dysentery bacilli, and their toxins. This type of dysentery bacillus, produces a soluble toxin and for it, therefore, a definite anti-toxin can be made, while for the mannite fermenting types only anti-bacterial sera can be made, because these organisms do not produce an extracellular toxin. The re-

lative value of these two types of sera, is well known. Inasmuch as our cases in this country are most frequently associated with the mannite fermenting types, we cannot at the present time, hope to get as satisfactory results from the use of them, as if the infections were produced by the Shiga type of organism. Specific treatment with serum, is usually not begun as early in this country, where so many cases of intestinal disturbances are only transient and not as severe as in the tropics.

Active immunization by the injection or feeding of killed cultures of dysentery bacilli, has been undertaken as a prophylactic, as well as a curative measure. This method, however, cannot readily serve either of these purposes in this country, because the occurrence of bacillary dysentery under ordinary circumstances, is not as wide spread nor as severe as in the tropics, therefore people are not willing to be immunized before the occurrence of the disease. Furthermore, immunity lasts only a few months, and therefore, at least two immunizations in one season would be necessary. As a curative measure the treatment is applicable only in chronic cases.

INTESTINAL DISTUBANCES OTHER THAN EPIDEMIC.

Various bacteria other than dysentery bacilli, have been associated with diarrheas. The most important of these is the tubercle bacillus, associated with summer diarrhea, but may be confused with it. According to V. Beahring pulmonary tuberculosis is usually of intestinal origin. Calmette and Guerin have found that in young animals the mesenteric glands are first affected while in adults the original lesions are in the lungs. This difference they ascribe to the close packing of the follicles and follicular ducts and the small cavernous portions which they find in the mesenteric glands of the young animals. According to these observers the spaces in the pulmonary tissue and adult mesenteric glands are very much larger. It must also be remembered that tubercle bacilli may pass through the intestine without injuring the same. When tuberculosis of the intestine does occur it may appear in the form of either tubercles or ulcers. The best diagnosis of intestinal tuberculosis is made from the demonstration of tubercle bacilli in the stool, but here it must again be remembered that their presence may be due to tubercle bacilli from swallowed sputum. Frequently with intestinal tuberculosis there are other symptoms and signs of tuberculosis. The diarrhea varies, there may be hæomorrhage, pain and intestinal indigestion.

Streptococci, colon bacilli, lactic acid bacteria, peptonizing bacteria, bacillius pyocyaneus and other bacteria, some of which

have been found to be pathogenic to laboratory animals, and which were agglutinated by blood from the patient, have been regarded as causal factors in certain cases of dysentery. While streptococci and some of the other species mentioned apparently produce more marked cases of dysentery, still it seems as if these organisms are only of importance when associated with certain predisposing factors to disease. It very frequently happens that children who are apparently normal and healthy will have severe attacks of diarrhea within twenty-four hours after some exposure to cold or indiscretion in diet, and in these cases the isolation of some type of organism can hardly be regarded as producing pathological conditions in the intestine. In these cases predisposing factors undoubtedly are of importance.

The fact that diarrheal disease occurs most frequently during the first year of life and especially during the summer months, and are so often associated with feedings ill suited in quality and quantity, emphasizes the most important predisposing factors. It is at this time that the delicate alimentary canal is most susceptible to abuses. The nature of the contents of the digestive tract may be such that it is possible for bacteria which at other times are normal inhabitants of the intestine and which usually are harmless, to produce by fermentation and peptonization, substances that may be highly toxic and irritant to the intestinal mucosa. Furthermore there are undoubtedly many cases of diarrhea in children which are not produced by bacteria in the intestine, but result from the ingestion of poisonous and irritating food; among these may be mentioned the acids of fruit, vegetables, ice-cream, toxins of fish and other so called ptomain poisoning. Park and Holt have emphasized the fact that the occurance of diarrheas is much less affected by the character of the food than the care that the infant receives in which they included the time of feeding, the amount and constitution of each feeding and cleanliness in the care of bottles, etc., Even when all care is taken in feeding, the depressing effects of great atmospheric heat are very marked. It is frequently a difficult matter to persuade mothers to dress their children according to the temperature.

Aside from the various causes already mentioned, many cases of diarrhea are undoubtedly due to mechanical irritation. Of these causes chronic constipation is the most important, although indigestible articles, green fruit, etc., must also be mentioned. At times drugs which are given for the treatment of other conditions will lead to diarrheas, among which drugs mercury is probably the most important. A group of diarrheas which is

often only unsatisfactorily treated are the results of nervous irritation, and may come from fright, overheating, chilling and the like. In many cases intoxication as in uremia, measles, etc., may be responsible for the frequency of stool.

Summer diarrheas in children occur most frequently during the first year of life, and especially during the summer months. The dysentery bacillus is capable of producing every type of diarrhea, but the mechanical and nervous, and is the cause of the most important and frequent intestinal disturbances of children in the summer months. In all cases, however, the predisposing factors to diarrheas must be considered, for even in the cases of bacillary dysentery they apparently play a considerable part.

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NON-TUBERCULAR INFECTION OF THE KIDNEY.

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Read before the Southwest Medical Association Oct. 1909.

In presenting this paper, we make no claim for anything original. It is simply a partial review of the literature, together with the report of some type cases from those that have come under our observation recently. We will report the cases and then discuss the subject. In dealing with so large a subject in one short paper, we must of necessity omit much of the detail in both history and pathological findings, and only hit the high places as it were.

Case 1. Mrs. N., age 23, married one year, was confined on May 30th (first confinement); instrumental delivery with an extensive laceration of the perineum; this was repaired immediately and healed by first intention. She was unable to pass her urine and was catheterized every six hours; she did nicely, temperature and pulse normal after two days. On June 8th, she complained of some headache; no appetite for supper. Up until this time she had passed no urine except by catheter. Her attending physician was called and found her with a temperature 102. The following day, temperature 100 to 102. On June 10th, a consultant was called from a neighboring town. They naturally thought of the uterus as the source of the infection; they anesthized her and gave an intra-utrine douche. The following day she had a chill, followed by a temperature of 104, pulse 130. Her attending physician telephoned me, asking me to come down to see her with him. I found her at 2 A. M., June 12th, with temperature 102, pulse 120; no vaginal discharge, no tenderness about uterus,

but uterus firmly contracted; the only tenderness to be found was in the region of right kidney which was palpable and extremely tender.

On questioning, was told by her attending physician that her urine contained quantities of pus. On examination of same, found great amount of pus, no blood, colon bacilli, no casts, Her leucocytes were 15,000. One week later, the other kidney became involved, and I saw her again; she was brought to Kansas City and placed in St. Margaret's Hospital, put upon urotropin and large quantities of water. She made a slow, but complete, recovery.

Case 2. Mr. S., age 57, was admitted to the service of Dr. Geo. M. Gray, St. Margaret's Hospital, complaining of "Stomach Trouble"; had been vomiting with increased frequency for some three weeks; gave a history of having had gonorrhea, followed by a stricture some 25 years before, and also a history of having been treated in a hospital in Des Moines, Iowa, one year ago for malaria; had a few chills at that time. On examination, we found his left kidney palpable and tender; could not palpate his right one; urine full of pus, few casts, no blood, many bacteria. Could not pass a sound to dilate his stricture; a super-pubic cystotomy was done for purpose of drainage, expecting to put patient upon utropin, but he continued to vomit, developed other sysmtoms of uremia, and died one week later. I held an autopsy, finding the following: Heart and lungs normal, abdominal-viscera normal, right kidney hard and about one-half normal size, capsule adherent, pelvis thickened and the seat of a chronic inflammatory process, ureter thickened but patulous. On section it cut with resistance and the distinction between cortex and medulla had practically disappeared. It was a sclerosed kidney; one that had been the seat of a chronic infection of a low order of virulence, and one in which the drainage had never been obstructed.

The left kidney presented another picture. It was enlarged and congested. Its capsule slightly adherent, but where it adhered it pulled out pieces of the kidney substance. On section it presented a soft, almost friable, surface from which oozed a bloody serum, rich in leucocytes, no abscesses. Its pelvis and ureter were both thickened, but patulous and contained some pus. Bladder wall very much thickened, and the seat of an old inflammation. On microscopic section, the right kidney showed a great increase in connective tissue, with an almost complete obliteration of the tubules. It was a sclerosed kidney, one in which the infection had been overcome by a process of sclerosis at the expense of the func-

tionating properties of the kidney. The left kidney on microscopic examination showed an earlier stage of the same process. Some increase of connective tissue, while the epithelum of the tubules was undergoing degenerative changes.

The thing that was most interesting to me was the fact that an infection of the kidney of such a grade as was here present might resolve without abscess formation.

Case 3. Also from the service of Dr. Gray, St. Margaret's Hospital. Mrs. S., age 34, one and one half year ago fell and sustained an injury to her side. Some two months thereafter, she first noticed a lump in the right side of her abdomen, tender but not painful. Has remained present, gradually but slowly enlarged, rarely painful; occasionally some fever for a few days. These attacks of fever accompanied by more pain and enlargement more painful and tender for past month. No bladder symptoms until within last month; now a marked cystitis. This lump she spoke of was twice the size of a fist, and was diagnosed as a distended kidney, probably containing pus. It was removed and proved to be a double kidney; two pelves and two distinct ureters; the upper pelvis and that part of the kidney draining into it, entirely free from infection and both macroscopically and microscopically normal. The lower kidney, or that part draining into the lower pelvis, constituted a pyonephrosis containing about one quart of pus.

Case 4. A kidney I received as a pathological specimen with the following history: Miss W. age 23, was taken suddenly with a severe pain in the right side of abdomen, rather too high and severe for the appendix; temperature 104, pulse 120; tenderness most marked in the right costo-vertebral angle; no cystitis; kidney removed by operation. Pathological examination as follows: Kidney somewhat enlarged, and on section the surface cut showed an acutely congested kidney, with one small abscess near the upper pole, with numerous small, yellowish-white areas that look to be beginning abscesses. On microscopic section, the specimen showed multiple areas of infection of microscopic size, the centers a mass of bacteria and leucocytes surrounded by an area of round cell infiltration rich in leucocytes.

In considering the general subject of Non-Tubercular Infection of the Kidney, the relative frequency with which the special organisms are found is in the following order:(1) Bacillus Colli. (2) Staphlococcus Py. Au. (3) Streptococcus. (4) Proteus Vulgarus. (5) Pneumococcus. (6) B. Typhosis. (7) Gonoccocus. More often, they are mixed infections. There is but one authentic report of a case of pure gonococcus infection of the kidney published.

Next to consider is, how does the organism reach the pelvis of the kidney? Here the authorities are divided.

The Americans and Germans naming two routes, the ascending or urogenous, and the descending or the hæmotoginous; while the French school hold that all kidney infection are hæmotoginous in origin. They base their contentions on a long series of experiments done by Redland and Bonneau, also those done by Posner and Lewin. These were done upon rabbits and dogs. In some they exposed one kidney and bruised it by squeezing it between the thumb and finger. They inoculated the animal in the ear with a live culture, some bacillus colli; others staphlococcus, still others pneumococcus. On others they injured the kidney by a blow over the kidney region. Still others they ligated the ureter to one kidney then innoculated. In the majority of cases they got a pyonephritis of the injured kidney without a lesion of the uninjured one. In some of Posner's cases, he ligated one ureter and the rectum and got a pyo-nephrosis of the ligated kidney due to bacillus colli.

They point to the work of Cuneo upon the lymphatics of the bladder, ureters, and kidney, in which he proves that there were no lymphatics within the mucus membrane of the bladder or ureters; the only ones were deep in the muscular coat, and that they drained not toward the kidney, but into the adjacent illiac glands. That those of the kidney drained towards its pelvis. They hold that in not a single case it has been proven that bacteria travel against the natural stream of the body, and point to the change of view that has taken place in regard to the infection of the billary tracts. That they are all from the portal vein infection instead of ascending as was formerly supposed. They call attention to the fact that all infectious diseases, such as pneumonia and typhoid, or even in cases of furunculosis that bacteria are being eliminated through the kidneys. Thus affording opportunity for infection of the kidney, provided that the second condition be present, vs. some injury to kidney or any factor which has lowered the resistence of the kidney. They hold that in the cases of infection of the kidney which are preceded by a cystitis, (which is the case in from 65% to 75% of the cases), that which happens is this: The cystitis goes merrily on, either with or without symptoms until the lymphatics of the muscular coat are enveloped; that from this time on more or less of the organisms are found in the blood, and are consequently being eliminated through the kidneys. That as a result of the inflammation in the wall of the bladder, the valve like function of the vesico-ureteral

opening is increased, thus producing a stasis of the urine in that kidney and predisposing it to infection. Thus the cystitis is indirectly the cause of the pyo-nephrosis, yet it comes by the hæmotoginous route rather than by a direct extension upwards.

Now, as to the American and German conception: They admit the very great importance of the hæmotoginous infections as noted by Opitz in Germany, Ward in England and Brewer in this country, but hold that the ascending route is more frequent and urge the following reasons in their behalf; (1) The onsetof the symptoms of pyelitis is generaly preceded by cystitis(65% to 75%. (2) Only one kidney is affected as a rule; if both be affected, the one precedes the other by from a week to a few months. (3) No other organ shows signs of infections. This we could hardly expect if the kidney infection was merely a part of a general bacteria. It is important to note that Opitz failed to obtain a culture from the blood of his cases of ascending infection.

It is also interesting to note that he failed to get blood cultures in any of the cases after ligature of the bowel. If it be granted that the organism may follow the ascending route, we have next to decide the way it finds its way upwards. For when the organism is in the bladder, there is still the valvular action of the ureteral orifice to overcome, an action which is said to be increased in cystitis by muscular spasm at this orifice.

Morris and Watson both speak of an infection ascending by way of the lymphatics of the ureter and the kidney. This in all probability does not take place in view of the generally accepted work of Cuneo on lymphatics of the bladder and ureters.

Bond, as the result of his experiments, concluded that bacteria did not ascend the stream of urine, but passed upward in the mucus membrane itself to the stagnant pool of urine above the obstructing valve. He found that if sterilized granules of indigo are applied to the orifices of various mucus cavities, they ascend contrary to the natural stream and also contrary to the lymphatic drainage. For instance, indigo was applied to the lips of the uterus and two days later was found in a pyosalpynx. In another case, it was found in the abdominal cavity near the ostium abdominalis. Indigo placed in the rectum three days later was found in the cæcum. Also some placed in the bladder was recovered from a fistulous ureter in the loin.

After having once gained the stagnant pool of urine on the proximal side of the vesico-ureteral opening, it is then only a matter of little time until the pelvis of the kidney is involved.

It seems to me that any case of obstruction to the outflow of

the urine from the bladder, as in the cases of prostatic hypertrophy stricture of the urethra, or cases of retention, like case 1 of this paper, and the consequent repeated distension of the bladder, there must be at times a partial paralysis of the bladder and consesequently an open ureteral orifice which would naturally admit of an extension of the infection by the urine without pustulating an extension by mucus membrane or lymphatics. The first of which does occur and the second probably never.

Only last week, I examined a bladder in which the ureteral openings were at least one-half inch in diameter, constantly open with the ureters dilated even more above the openings. The result of residual urine from a chronic urethral obstruction. Also recently there came into the hospital a man with a spinal injury from whom 80 oz. of urine was drawn by catheter.

As to the division of the cases according to the American-German classification, Brewer of New York concluded after a long line of experiments carried out on dogs and rabbits, that two things were necessary for a hæmotoginous infection, viz: (1) A septic focus somewhere in the body capable of furnishing a certain number of bacteria to the blood current. (2) A diminished resistance on the part of one kidney due to the trauma, the presence of a calculus, an obstructed ureter, or a previous septic lesion. Brewer refers to two cases in which there was a history of trauma, one case 16 years, the other 14 years before.

Eckart reports a case of hæmotoginous infection in which there was partial ureteral obstruction due to an apparent renal artery which there sprung from the aorta passing to the lower pole of the kidney in front of the ureter.

Brewer's experiment practically paralleled those of the French, but his conclusions were not so radical, He insists upon the importance of an early diagnosis in these cases; yet states that a majority of the infections of the kidney are preceded by a cystitis and are ascending in origin. The importance of these cases of infection of the kidney has never been appreciated, and but very few of them have been recognized. I feel safe in saying that 80%, if not 90%, of the old men who die of so-called "senility", really die of an unrecognized ascending pyo-nephritis, the result of a cystitis due to prostatic hypertrophy.

Morris says that if the infection takes place through the lymphatics, the suppuration will begin in the interstitial tissue, whereas if it entered by the blood-current or the urinary channel, as in the ascending type, it will be manifested primarily in the terminal capillaries, and in the renal tubules, respectively; but as Morris

very properly points out, it is often impossible to determine the avenue of approach since all the distinct parts are early involved. But after the infection has once taken place, regardless of its origin or the manner of its entrance, the future course depends upon two factors, viz., the resistance of the patient and the virulence of the organism. If the virulence be greater than the resistive power of the patient and his tissues, you have a sepsis established which demands an immediate and radical treatment. If the resistance be greater, then you have a condition which will resolve, barring accidents. By accidents, I mean if nothing happens to interfere with the drainage of the kidney or any of its tubules. But if such an accident happens, then you have a nephrosis if the obstruction is to the ureter, or an abscess of the kidney if the obstruction be to some of the tubules. Either of these are surgical and require drainage. It is these milder cases without accidents that are medical and in which urotropin and large quantities of water is the best treat -- ment.

Now, a word as to diagnosis: This is best told by case history. In the ascending type, you have, as in cases 1 and 2 of this paper, a history of cystitis, then an increase in the severity of the symptoms, perhaps a chill, and at once there is noted tenderness over one or the other of the kidneys, especially is this tenderness noted in the costo-vertebral angle. The kidney enlarges, and many times becomes palpable and is always distinctly tender.

In the hæmotoginous, there is seldom a history of preceding cystitis, the onset is usually acute, many times a chill, high temperature, one-sided adbominal pain, often severe nausea and vomiting, extreme prostration, tenderness in the kidney region, particularly in costo-vertebral angle, urine contains some albumen, some pus, and perhaps some blood. A number of Brewer's right-sided cases were sent in with a diagnosis of acute appendicitis. He says regarding this type of cases "There are three important facts regarding the behavior of this form of infection that are not generally appreciated by the profession. The first is that these lesions are usually unilateral. The second, that in the most severe type the toxemia is so overwhelming that death often occurs before the characteristic renal symptoms are developed. And the third ,that these cases in their early symptomatology vary greatly, the clinical picture often suggesting an acute grippe, an appendicitis, or a chole-cystitis."

In conclusion, just a word as to the cases reported: Cases 3 and 4 are certainly cases of hæmotoginous origin, but in neither were we able to determine from the case history the location of

the septic focus from which the infection originally arose.

In case 3, the local factor that determined the infection of the kidney may have been either the preceding trauma, or like Eckart's case, may have been due to the anomolous arrangement of the kidney. In case 4, in the meager history I got, there was nothing to indicate either the source of the infection or the determining factor.

Cases 1 and 2 are undoubted cases of ascending origin; case 1 showing what may be expected in cases early recognized and rationally treated. The one most fortunate thing about this case was the drainage both of the kidney and its pelvis which was at all times perfect. Case 2 shows the outcome of just such cases not early recognized. In case 1, we surely had an involvement of the kidney as well as its pelvis.

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ACUTE ENDOCARDITIS.

E. L. SIMONTON, M. D., Wamego, Kansas.

Read before the Golden Belt Medical Society, April 7, 1910.

An acute inflammation of the lining membrane of the heart and its valves, and is characterized anatomically by vegatations, necrosis and ulceration. It is sometimes classified according to the nature of the infection, of which the most common is rheumatic, frequently seen but more rare is the streptococcic, staphylococcic, pneumococcic, typhoid and gonococcic. According to the character of the lesion, there is the verrucose and ulcerative forms, and according to the severity of the symptoms there is the benign and malignant varieties. The first classification is misleading, as there is essentially no benign form. There is always erosion of endothelium, vegetative outgrowths, and ulceration.

The danger depends on the nature of the infecting agent, the extent of loss of substance, and the blood defences. Endocarditis is always a serious affection; if not immediately, it may be remotely so by sclerotic changes which lead to retraction and insufficiency of the valves.

The so-called benign kills remotely a much larger number than the malignant form.

The best authorities recognize clinically four great groups of infective endocarditis:

1. The endocarditis of the general infections, rheumatic fever, typhoid fever, scarlet fever and a few others. Simple, and in most cases harmless at the time, it leads often to sclerosis of the

valves, and to chronic heart disease.

II. The ulcerative, which is a part of septic pyæmia arising in local infections, puerperal processes, bone disease, gonorrhea, etc.

III. The recurrent endocarditis of chronic heart disease.

IV. Chronic septic endocarditis, caused by the growth of vegetations on the valves, in which there is slow intermittent fever.

In the first two groups the symptoms are part of an infection of which the endocarditis is an incident. In the last two, the focus of infection is in the valves, and the symptoms are due to that alone.

The conditions under which the endocardium is affected, on the authority of Wm. Osler, are as follows:

1. "Infective endocarditis is a valvular, rarely a mural, lesion, and on the valves the closure lines are points of election. In the fœtus, the right heart is most frequently affected; in the adult, the left.

2. Most frequently an incident in septicæmia. It is not always possible to say whence the infection has been derived. In almost any one of the ordinary febrile diseases endocarditis may be a complication, but it is particularly during childhood that we meet with it, and above all others—in rheumatic affections.

The tonsils are probably the portals of entry for micro-organisms in this group.

3. Certain bacteria are much more prone, to excite endocarditis than others. The streptococci and staphylococci, the micrococcus rheumaticus, provisionally, the pneumococcus and the gonococcus are the chief.

4. The liability to infection of the valves does not depend upon the number of organisms circulating in the blood. Virulence of the organism plays an important part. The most intense local infections are met with in the virulent septicæmias and gonorrhea. In rheumatic fever and chorea the local lesion is itself trifling rarely associated with destructive changes in the valves, and yet these are the very organisms which have a special predilection for the cardiac valves .

5. We do not know what determines the settlement of the organisms on special valves or on special portions. It has been shown that experimental lesions of the valves, if made with proper precautions, are not followed with endocarditis, but if done with unclean instruments, or, if after the injury, suitable organisms are injected into the blood, an inflammation follows.

6. The injection of cultures alone is, as a rule, negative so

far as the valves are concerned, but Poynton and Paine have shown that endocarditis may be caused by the injection of organisms belonging to the streptococcus class and the one which is believed to be the excitant of rheumatic fever.

7. It is believed that micro-organisms settle directly on the valves from the blood current. Strain and tension have a great deal to do with endocarditis. The more common involvement of the mitral and aortic valves in extra uterine life may be thus explained. The points first involved correspond to the points which bear the greatest strain, and on which the endothelium would be most likely to suffer first."

There are two lesions of the endocardium; verrucose vegetations, necrosis and ulceration. The verrucose occurs in the so-called simple form; the ulceration, in the virulent or malignant type. The proliferative changes leading to sclerosis is a sequlae of the other two and partakes more of the chronic type.

The vegetations form small bead-like structures, soft and grayish white in color; sometimes they are warty, cauliflower-shaped excresences; sometimes pedunculated. This lesion is usually in the left heart, and often on the mitral valve.

The ulcerative or necrotic lesions affect the right side of the heart more frequently than does the simple or verrucose form. But the left heart suffers greatest, probably in about 70% of the cases

The ulcerations cause extensive destruction of the endocardium, and valve tissue. Sometimes an ulcer may perforate the aortic ring or septum. Often there is only superficial erosion of the valve covered with a gray diphtheric looking membrane; hence, the term "diphtheric" applied to this form.

The deep perforating ulcers are due to streptococcus infection or other pus organisms. The process may be very acute, or it may last several months without acute symptoms. Septic emboli and hemorrhage are frequent in this form.

The infection in practically all cases of acute endocarditis gains access to the system through the skin or mucous membrane. The alimentary tract is the most common portal of entry. The tonsils are hot beds of infection and responsible for a great many cases, and, if the infection of acute rheumatic fever is here harbored, their significance is very great.

It is a notable fact that from them at any time may be cultivated the very organisms that are most liable to produce endocarditis. Many severe forms follow local skin infections; as a rule though, the endocarditis is secondary to the more severe general infection.

Rheumatic infections cause more endocarditis than all other causes combined. In this group we have arthritis, tonsilitis, chorea, erythema and fibroid nodules. The precise germ has not yet been settled, but the evidence suggests that it is one related to the streptococcus group.

Frederick J. Poynton, after discusssing the various theories of causation of rheumatic fever, has this to say of a certain diplococcus discovered by himself and other investigators:

"This diplococcus has been isolated by a considerable number of investigators, and its relationship to the disease worked out, step by step, within the last ten years. Westphal, Wasserman and Malkoff, in 1899, produced fever and multiple arithritis in eighty rabbits with a similar micro-organism, obtained from a fatal case of rheumatism. Paine and the writer, in 1900, published an independent investigation, in which they had isolated this diplococcus from eight successive cases of acute rheumatism, and had shown its presence in the most important human lesions; they had produced these various lesions in rabbits. and had isolated the diplococcus from the animal tissues. Since that date they have increased the number of cases from eight to thirty-five, with only occasional failures.

"The results of experiment are, on the whole, remarkably constant, and the reader cannot lose sight of the fact that a micro-organism which is present in the lesions of acute rheumatism is capable of re-producing similar lesions in animals. Vernon-Shaw, in 1903, demonstrated that monkeys were susceptible to the infection with a culture obtained by the writer from rheumatic pericarditis immediately after death.

Some discussion has arisen over the name that should be given to it, but there seems no good reason for altering the name that Paine and the writer originally gave to it in 1901,—the "diploccocus rheumaticus" for it will be found in the majority of instances as a diplococcus, rather than a streptococcus, and it is a cause of rheumatic fever. If a descriptive name is needed, the "diplococcus rheumaticus" is the most accurate; if a family name is required, then "streptococcus rheumaticus."

The close association of endocarditis with rheumatic arthritis, chorea and tonsilitis has long lead clinicians to believe that they are of similar origin, but the investigations of Poynton, Paine and others apparently lead us a little nearer the truth.

The tonsil, as is the case in all cases of rheumatic fever, seems to be the chief source of infection in rheumatic endocarditis, and beneficial results follow the removal of these structures in persons

subject to recurring attacks of endocarditis, and, as a prophylactic measure, the importance of their removal cannot be over estimated. A tonsilitis should never be treated as a trifling affection. A slight lesion may be carelessly overlooked, or there may be only a reddening and slight swelling of the fauces, but many of the obscure febrile attacks in children are due to these mild cases of tonsilitis, and in them we find the cause of many an attack of endocarditis and subsequent valve lesion.

Endocarditis is so often associated with rheumatic arthritis that it is recognized as its most frequent and serious complication. Fully 60% of the cases in children and 30% in adults show valve infection. In children, the inflammation of the valves may be the chief manifestation, the arthritis being so slight as to be disregarded or overlooked. Hence, the importance of physicians examining the joints and tonsils with the greatest care in every febrile attack of children.

The poison in Sydenham's chorea has a singular predilection for the valves of the heart. This fact, with the frequency of its association with attacks of tonsilitis and arthritis, leads to the belief that it belongs to the class of rheumatic infections. Fifty per cent of cases of chorea show valvular lesions. I will pass over the symptoms and diagnosis of this disease, and conclude with a few remarks upon its treatment. The prophylactic treatment is probably the most important, since we have so little of real value at our disposal in the direct treatment.

Much has been done by the thorough removal of the tonsils and adenoids, cleaning up the teeth and the alimentary tract. All skin infections should be treated carefully and systematically. We should be on the alert in every case of arthritis or obscure fever, strictly enjoining absolute rest in bed, and in arthritis push the salicylates.

Often in recurring cases of tonsilitis we find a cause in bad hygiene and ventilation. I have in mind a frequently recurring case of tonsilitis in a child in which the tonsils were not large and there were no adenoids, but a member of the family had a constantly discharging sinus of which he was not very cleanly. I induced the parents to make a change, since which time—four years—there has been no recurrence of the tonsilitis.

As a matter of direct treatment, it is improbable that we have any drug that is capable of influencing directly the vegetative growths, the proliferative changes, or the ulcerative processes. Protracted and absolute rest favors restitution and hinders the destructive changes by lessening the strain and pressure on the valves.

By rest in bed a relative condition of rest is attained by lessening the heart beats one third. Iodide of potassium is recommended by all authors for its supposed influence over vascular metabolism. It is my belief that its action is due to the inhibitive power the iodine has on the activity of the infecting organisms. For the same reason the salicylates and other antiseptic remedies have some influence.

G. A. Gibson believes that in serum therapy we have a direct means of meeting the disease, but he acknowledges that the whole subject is, as yet, in the experimental stage. The antistreptococcus serums have not proven successful. The ideal method would be to make a blood culture, determine the exact infecting agent, and then prepare and use the proper vaccine; but these things have not yet been worked out, and until they have been, we have to acknowledge that we have no agent that directly influences the process in acute endocarditis.

The ice bag gives marked relief in many cases, and seems, in some degree to influence the disease processes. Hot fomentations are better borne in some cases; they are equally efficient and are not as liable to depress the patient. Opium should not be forgotten. It is one of our most useful agents. It relieves the pain and the distressing dyspnoea, and gives the patient much needed rest. Its proper use is harmless.

Signs of cardiac failure must be watched for. Free stimulalation and the use of cardiac tonics should be adopted, if there be any waning of the heart sounds or arterial pressure. Strychnine hypodermatically gives quick and efficient stimulation. Iron, quinine and arsenic have their place. Digitalis is not useful in the heart failure of endocarditis. In most cases it is actually harmful. Camphor may have a place, but its employment must be begun early as its action is extremely slow.

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For Chronic Atonic Constipation.—Gaut prescribes a pill of the following composition in the treatment of chronic atonic constipaition:

℞ Purified ox bile,.....gr. i;
Extract of colocynth,.....gr. ii;
Extract of hyoscyamus,.....gr. ii;
Extract of nux vomica,.....gr. ii.
M Ft. pil. No. 1.
Sig.: One pill at bedtime.

—N. Y. Medical Journal.

THE JOURNAL
OF THE
Kansas Medical Society.

JAMES W. MAY, - - - - - EDITOR.

ASSOCIATE EDITORS: J. E. SAWTELL, CHAS. S. HUFFMAN, O. P. DAVIS.

Subscription Rates: $2.00 per year, 20c single copy. Advertising rates furnished promptly on application.

The Journal was established in June, 1901, by a publication committee at Topeka. In May, 1903, Dr. G. H. Hoxie was elected editor and served four years. In January, 1904, it incorporated the Wichita Medical Journal, owned by Drs. W. H. Graves and G. K. Purvis, and the Western Medical Journal, owned by Dr. A. J. Roberts, of Ft, Scott. In March, 1909, it incorporated the Wyandotte County Medical Journal, owned by Dr. James W. May. It is now printed in Kansas City, Kansas, and appears the first of every month. Correspondence should be addressed to the editor. Editorial office, 501-2 Husted Bldg., Kansas City, Kans.

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EDITORIAL

Success means the realization of the value of every passing moment.

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Robert Koch whose contributions to bacteriology will stand as a monument for all time to come died recently at the age of 66 years. His life devoted to medical science and whose discovery of the tubercle bacillus and the cholera spirillum either of which is a contribution anyone could be justly proud of as a life work, have been supplemented by many investigations of incalculable value to the human race.

His abrupt death terminates the career of a scholar, investigator and scientist whom the world can ill afford to spare.

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The A. M. A., Meeting.—The A. M. A .Meeting at St. Louis was a success in every particular. The attendance while not up to the mark established by Chicago in 1908 was nevertheless very gratifying—more than 4000 registered in attendance—Kansas was well represented, a list of whom appears in another column.

The entertainment was varied and constant, there being no idle moments or when the "nothing doing " sign was up.

They consisted of a reception to the president Dr. Welch, followed by a dance, a night at Forest Park, when everything in the park including the vaudeville show, and cafe were had without

the asking. Nearly all the sections had dinners tendered by the committee (of St. Louis), and also as usual a large number of alumni were banqueted. There was also a boat trip down the river, balloon race, etc.

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Nearly all of the sections had special features. The section on dermatology had twelve cases of pellagra—2 from Nevada, Mo., brought by Dr. Lampson of State Asylum No. 3, and 10 cases from Peoria, Ill.,brought by Dr. Zeller, superintendent of the State Asylum. The cases were said to be highly interesting. The section on Otology, Rhinology and Laryngology had two interesting symposia one on Labrinthine diseases and another on the Tonsils. Prof. Holger Mygind of Copenhagen, was guest of honor and delivered two addresses on "In Memoriam; Wilhelm Meyer"and "The Surgical Treatment of Otitic Meningitis." Mr. J. Herbert Parsons of London, England, delivered an address in the ophthalmological section upon "The Effects of Bright Light upon the Eyes." Alfred Saenger of Hamburg, Germany, delivered an address upon "Choked Disc in Its Relation to Cerebral Tumor and Trepaning." The other guests of the Society were J. W. Gunn and Jasper Halpenny, Winnepeg, Manitoba, A. Primrose, Toronto, Ont; Sidney Ulfelder, Mexico City, Mexico; Byrd Charles Willis, Richmond, Va; S. Libreseu, St. Louis; P. Fiaschi, Sidney, Australia and W. A. Young, Toronto, Ontario.

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The commercial and scientific exhibits were held at the Colseum. One of the most interesting features of the scientific section was the remarkable historical exhibit of the St. Louis Medical History Club. In this exhibit were medical history items such as medical medals, old works on anatomy and surgery, works on medical biography, old medical diplomas, curios, oil and engraved portraits of deceased medical men, instruments and sick room applicances of ancient designs. The exhibit reflected great credit on the organization of the St. Louis Medical History Club.

The society will meet next year at Los Angeles, Calif. The society elected for President, John B. Murphy, Chicago.

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NEWS NOTES

Bethany Hospital in Kansas City, Kansas will soon break ground for a new hospital costing $160,000.

The honorary degree of L. L. D., was conferred on Dr. S. Weir, Mitchell by Jefferson Medical College, at the annual commencement exercises, June 6.

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A Fractically Unlimited Sum for the Fight Against Tuberculosis has been offered to the National Association for the Study and Prevention of Tuberculosis by Waldorf Astor, a son of William Waldorf Astor.

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Dr. J. A. Egan, in a recent report, noted the constant increase in deaths from cancer. According to his statistics, cancer causes one twefith of all deaths after the age of 30 years.—Illinois Medical Journal.

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Dr. and Mrs. Crawford of Salina, will spend the summer in Europe. They will sail from New York June 29th, on the steamer Blucher of the Hamburg-American line for England where the doctor expects to spend most of his time in the principal clinics.

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A bequest of $10,000 to St. Margaret's Hospital, Kansas City, Kansas, was included in the will of Thomas J. Collins, who died recently in Harris, Kansas. The money is to be used for the maintenance of free beds in the hospital.

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Improper Medical Advertisements.—A bill has been introduced into the Ohio Legislature which should it become a law, will prohibit advertisements in newspapers for the treatment of any venereal or menstrual disease.—Journal Penn. Med. Association.

It is to be hoped that other states will follow suit or go them one better by making it a felony to advertise nostrums containing narcotics.—Ed.

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"If we had, through the misfortunes of war, or the sudden rise of pestilence, or through some awful calamity, the destruction of life that annually takes place on account of the spread of this disease (tuberculosis), we should be appalled and mass meetings would be held in every community and demand would be made that the most urgent measures should be adopted. It is only because we are accustomed to this waste of life and are prone to think that it is one of the dispensations of Providence that we go on about our business, little thinking of the preventive measures that are possible."—Charles E. Hughes, in Bulletin Indiana State Board of Health.

Dr. O. D. Walker of Salina will spend the month of June in New York doing post-graduate work in general surgery in the New York Post-graduate School.

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Dr. Geo. H. Hoxie who lately resigned as Dean of the Clinical Department of the University of Kansas is the author of a book entitled "Symptomatic and Regional Therapeutics" which is being published by D. Appleton & Co., New York City.

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Owing to the enormous price of radium, nearly $5,000 a grain, a bank is being established in London for the purpose of loaning radium to physicians wishing the use of it for treatment for operations, at the rate of about $100 a day for a grain.—St. Louis Medical Review.

Is it worth the price? Echo answereth "NIT."

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An Honorary Degree for Dr. W. J. Mayo.—The honorary degree of doctor of science was conferred upon Dr. William J. Mayo, of Rochester, Minn., by Columbia University, at the annual commencement exercises held on June 1st. In conferring the degree the president of the unversity spoke in glowing terms of the services which Dr. Mayo had rendered to his profession and to humanity. His popularity was attested by tumultuous applause when he rose to receive the degree.—N. Y. Medical Journal.

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The Ladies Home Journal expresses the hope, in its April issue, that we shall have a sane Fourth of July. Last year, it says, there were 215 children killed; 171 lost one or more fingers; 41 a leg, an arm, or a hand, 36 one eye, 16 both eyes, making a total of 93 maimed or disfigured. Contrary to the delightful opinion held of the medical profession by certain individuals, this form of vivisection has no charms for even our most enthusiastic experimenters.—N. Y. Medical Journal.

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In order to show that spitting on the sidewalks is dangerous to health, an investigation has been made by Dr. John Robertson, medical health officer of Birmingham, England, which shows that seven per cent of the "spits" collected in public places contained consumption germs. On the other hand the dust collected from the floors of the cottages of the Adirondack Cottage Sanitarium has been found to be free of tuberculosis germs, showing that a careful consumptive is not dangerous.—Bulletin Kansas Board of Health.

In the annual reorganization of the Kansas Board of Medical Registration and Examination, held in Kansas City, Kas.., recently, Dr. H. A. Dykes of Lebanon, Kas., who has been president of the board the last year, was elected secretary to succeed Dr. F. P. Hatfield, the retiring member of the board.

The office of secretary is the only salaried position on the board. Doctor Dykes will prosecute persons attempting to practice in Kansas without a state license.

Dr. A. S. Rose of Sabetha, Kas., a new member was, made president.

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The Annual Fourth of July Killing.—It may surprise many a citizen to know that a very rational and earnest movement against the use of fire-works on Independence Day is now in its seventh year; nor is it universally realized among us how many of our children have, by reason of these yearly celebrations, suffered the most cruel death known to medical science. Were any such emotion possible in the English breast, that of satisfaction for the losses and humiliations endured by England in the war for Independence,—at least so far as human life is concerned,—could hardly be more thoroughly justified; for, taking no account whatever of our national losses of many decades past, but only of those incurred in the last three yearly celebrations and in the metropolis alone, we find that 1339 have been killed and injured,—more than the casualties in the Revolutionary battles of Lexington, Bunker Hill, Fort Moultrie, White Plains, Fort Washington, Monmouth, and Cowpens combined. Nor have these losses been among fighting men, but rather among the little children ; and of the latter wounded on Independence Day many that have not died have nevertheless been dreadfully maimed and disfigured for life.—From "Independence Day.—The Modern Moloch," by John B. Huber, M. D., in the American Review of Reviews for June.

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TOPEKA NEWS NOTES.

Dr. W. D. Storrs has returned from a visit to the Mayo clinics at Rochester, Minn.,

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Dr. J. B. Tower will remove to southern Florida about the first of July to reside permanently.

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Dr. M. R. Mitchell is in Kit Carson County Colorado improving a claim he entered there some time ago.

Dr. Wm. F. Brown has returned from a several weeks attendance at the New York and Philadelphia Clinics.

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Among those from Topeka who attended the St. Louis meeting were Drs. W. S. Lindsay, Dr. D. E. Esterly, L. H. Munn and J. C. McClintock.

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The Kansas Medical College graduated a Class of twelve at its recent commencement. All of whom have since passed the State Board with satisfying grades.

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The new Dispensary for the Kansas Medical College is now completed and will be in use hereafter. It occupies the first floor of the College building, and is very complete in its appointments.

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Dr. W. E. McVey has been re-elected Dean of the Kansas Medical College for the ensuing year. He was also elected secretary to succeed Dr. J. B. Tower who is removing to Florida. The consolidation of the two offices is in the interest of convenience, and for the unification of the methods hitherto employed in carrying on the business of the school.

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The Shawnee County Medical Society held its regular monthly meeting June 5th. The leading paper was by Dr. J. P. Kaster on Un-united Fractures. The society will hold its regular meetings throughout the summer without interruption. Dr. Herbert L. Clark was elected to act as secretary during the absence of Dr. Conner.

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Dr. Milton Connor who sustained a compound fracture of right leg several weeks ago and has been confined in Stormont Hospital since, is now out on crutches but will be unable to resume his practice for some weeks yet. Dr. Conner has recently been elected Professor of Pathology in the Kanas Medical College and Superintendent of the Dispensary.

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NOTES OF THE A. M. A. MEETING.

The American Medical Editors Association met on Saturday and Monday. Many papers were read after which a banquet was held. At the banquet Colonel Gorgas, Dr. W. W. Welch and Surgeon General Wyman spoke.

Kansas was represented in the House of Delegates by Drs. L. L. Uhls and C. C. Goddard.

Dr. Wm. H. Welch the president delivered his address Tuesday noon at the general session.

The attendance was a little over 4000 which number has only been exceeded twice, viz., Chicago and Boston.

The American Gastro-Enterological Association met on Saturday and Monday. Walter B. Cannon of Boston was elected president.

Charles H. Mayo of Rochester, Minn., delivered the chairman's address in the Surgical section. His subject was "Prophylaxis of Cancer.

The National Federation of State Medical Examining and Licensing Boards met on Saturday. Joseph C. Guensay of Chicago, was elected president.

The American Academy of Medicine met on Saturday and Monday. A large part of the program was given over to a symposium on social diseases.

The American Association of Medical Examiners held its annual meeting Saturday and Monday. Dr. Thomns A. Stevens of Caney, Kansas was elected treasurer.

There were 106 registered from Kansas which is a pretty fair showing. However, in looking over the list of the absentees it seems that business must have been terribly pressing at home on June 6 to 10th for quite a number.

A new association was formed called the American Federation of Sex Hygiene, whose purpose will be to take measures to educate the public in sex hygiene and such other measures as seem desirable for the prevention of infection.

The general opening meeting of the Sixty-First Annual Session of the American Medical Association was held at the Odeon Theater, Tuesday, June 7, 1910, at 10:30 a. m. The meeting was called to order by President William C. Gorgas, of Panama.

At the banquet of the section on Nervous and Mental diseases Tuesday night, Dr. Alfred Saenger of Hamburg, Germany, spoke of the marvellous progress of medicine in the United States since his last visit to this country 20 years ago

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Dr. Chas. H. Simmons was unanimously re-elected secretary of the Association and editor of the Journal. In view of the fact that a fight has been waged upon Dr. Simmons for the past two or three years it must be apparent that his services are appreciated at least by the House of Delegates who ought to know the value of such services rendered.

Herbert S. Hadley, Governor of Missouri, delivered an address of welcome and to express it mildly he was heartily received. He pledged himself to help in every possible way to the furtherance of good medical legislation. It always takes some one from Missouri to stir things up as did Governor Hadley who is a product of Kansas the "best state in the union."

The American Academy of Medicine at the close of its three days' session at the Jefferson Hotel, Monday night, elected the following officers for 1910 and 1911: President, Dr. C. S. Sheldon of Madison, Wis.;first vice president, Dr. H. B. Hemenway of Evansville, Ill; second vice president, Dr. Cyrus L. Stevens, Athens, Ga; third vice president, Dr. Adolph Alt, St. Louis; fourth vice president, Dr. Phillip Mills Jones, San Francisco; secretary and treasurer, Dr. Chas. McIntire, Easton, Pa., and assistant secretary, Dr. A. R. Craig of Philadelphia. The convention closed with a banquet.

The sections of the A. M. A. elected for 1910-11 the following chairmen: Practice of Medicine, Allen Arthur Jones, Buffalo; Obstetrics an Diseases of Women, Horace G. Wetherill, Denver; Surgery, George W. Crile, Cleveland; Ophthalmology, Albert E. Bulson, Jr., Ft. Wayne, Ind; Laryngology and Otology, Roy Dunbar, Atlanta, Ga; Nervous and Mental Diseases, W. A. Jones, Minneapolis; Preventive Medicine and Public Health, W. A. Evans, Chicago; Stomatology, S. L. McCurdy, Pittsburg, Pa; Diseases of Children, S. M. Hamill, Philadelphia; Dermatology, James C. White, Boston; Pharmacology and Therapeutics, Lawrence Litchfield, Pittsburg, Pa; Pathology and Physiology, Yandell Henderson, New Haven Conn; Genito-Urinary Diseases, W. T. Belfield, Chicago

The American Association of Medical Examiners, which was in session at the Planters' for two days, closed with an election of officers. Dr. Liston H. Montgomery, Chicago, was elected president. The four vice presidents are: Dr. W. Edward Grant of Louisille, Ky; Dr. W. T. Tilley of Muskogee, Ok; Dr. J. T. Priestley of Des Moines, Ia., and Dr. C. T. Cutting of Seattle, Wash. Dr. A .E. Cox, Helena, Ark. was elected secretary and Dr. F. A. Stephens of Kansas, treasurer.

Resolutions were adopted by the association favoring the principles of the Robert Owen bill now before Congress. The association also indorsed the movement to place a scientist at the head of the Federal Health Department contemplated in a bill before Congress.

Dr. Alfred Saenger, a celebrated neurologist of Hamburg, who is in St. Louis attending the American Medical Association Convention, told the members of the nervous and mental diseases section at its banquet, that the progress made by America in the last twenty years in medicine and hygiene was the talk of Germany and was most marvelous.

"I was in America just twenty years ago," said Dr. Saenger, "and at that time I was not impressed with the medical situation. To-day I return and find a most wonderful change for the better. I have read all about this advancement from time to time, but had no idea of the reality. I have come all the way from New York to St. Louis and I find excellent conditions existing everywhere."

Dr. Saenger is a graduate of the University of Berlin and is at present chief of staff of St. George's Hospital in Hamburg. He has traveled extensively and has made studies of insanity and nervous diseases in almost every civilized country. He has been a physician for over thirty years and has written much on the subject of insanity.

Speaking of America apart from the medical side, Dr. Saenger said that the United States was far ahead of Germany in railroads and in every modern comfort. He said that if he could be would like to live in America.—St. Louis Globe-Democrat.

The following doctors registered from Kansas at the A. M. A. meeting: N. Aikman, Ft. Scott; C. D. Blake, Ellis; A. H. Breasler, Nickerson; H. H. Brookhart, Scammon; T. H. Hale, Fall River; A. G. Henderson, Leonardville; C. H. Koentz; Onaga; R. W. Moore, Arcadia; Sarah A. Noble, Clearwater; E. Schuman, Cleburne; Marion Trueheart, Sterling; G. A. Tull, Clay Center; L. L. Uhls,

Osawatomie; L. P. Warren, Wichita; G. A. Warren, Black Rock; S. G. Zinke, Leavenworth; Jessie Newkirk, Kansas City; E. E. Anderson, Garland; D. W. Basham, Wichita; E. J. Beckner, Selden; W. N.. Bispham, Ft. Leavenworth; C. E. Bowers, Wichita; J. W. Bolton, Iola; C. Brady, Parsons; J. W. Cave, Wichita; N. L. Chambers, Lawrence; Athol Cochran, Iuka; W. R. Dillingham, Morland; J. G. Dorsey, Wichita; R. E. Eagan, Springhill; Andrew Engburg,McPherson; D. E. Esterly, Topeka; C. D. Forney, Wichita; J. A. Fuller, Lane; C. C. Goddard, Leavenworth; W. S. Gooch, Mapleton; D. E. Green, W. T. Grove, Eureka; J. F. Gsell, Wichita; F. J. Haas, Leavenworth: W. A. Haynes, Sabetha; Emma L. Hill, Oswego; J. Jeurink, Prairie view; Arch D. Jones, Wichita; C. Leslie, Meade; G. P. Marner, Marion; J. W. May, Kansas City; J. H. McGauhey, White Cloud; G. Meyer, Lincolnville; N. C. Morrow, Altanrout; R. J. Morton, Green; D. T. Muir, Alden; L. H. Munn, Topeka; S. Murdock, Jr., Sabetha; Henry A. Nave, Argentine; Schuyler Nichols, Herington; J. E. Oldham, Wichita; A. Pihlblad, Lindsborg; W. H. Rees, Pleasanton; C. T. Reid, Carona; J. D. Riddell, Enterprise; J. W. Risdon, Leavenworth; H. R. Ross, Sterling; H. R. St. John, Alton; J. E. Sawtell, Kansas City; L. W. Shannon, Hiawatha; H. J. Sloss, Meade; G. S. Smith, Liberal; L. T. Smith, Newton; R. C. Smith, Marion; J. T. Axtell, Newton; R. M. Bennett, Mound Valley; H. H. Bogie, Pittsburg; H. L. Clarke, LaCygne; W. F. Coon, Caney; J. L. Evans, Wichita; R. C. Gardner; R. S. Fillmore, Blue Rapids; K. B. Ford, Wichita; M. A. Gardner, Greenleaf; O. L. Garlinghouse, Iola; C. M. Gibson, Franklin; M. A. Greene, Kansas City; J. W. Ketchersid, Hope; S. C. Pigman, Concordia; W. S. Lindsay, Topeka; R. S. Magee, Topeka; T. L. McCarty, Dodge City; J. C. McClintock, Topeka; G. W. Maser, Parsons; M. L. Perry, Parsons; G. K. Purves, Wichita; W. Reding, Lawrence; C. W. Reynolds, Holton; W. F. Sawhill, Concordia; L. W. Shannon, Hiawatha; Albert Smith, Parsons; S. J. Snider, Courtland; J. C. Wilhoit, Manhattan; N. C. Speer, Osawatomie; S. Steelsmith, Abilene; Chas. Stein, Glasco; C. L. Stocks, Bushong; S. H. Thompson, Kansas City; F. S. Williams, Wichita; C. L. Zugg, Kansas City.

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SOCIETY NOTES.

Program of the Clay County Medical Society at Clay Center June 8, 1910. Paper, "The Treatment of Hydrophobia", Dr'. Alexander B. Jeffrey, Topeka. Paper, Dr. C. M. Stemen, Kansas City.

The Wyandotte County Medical Society has adjourned for the summer to meet again the first tuesday in October.

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Sixth International Congress of Esperantists.—This congress will meet next August at Washington, D. C. Dr. Zamenhof, the founder of Esperanto, and a prominent oculist of Warsaw, Poland, will attend. The American members of the World Esperanto Medical Society will doubtless be present in force, as an effort will be made to organize an American branch of the society. Further particulars may be obtained from Dr. Kenneth W. Millican, 231 Metropolitan Building, St. Louis.

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SOME REMINISCENCES.

J. E. MINNEY, M. D.

I began the study of medicine almost forty years ago—a generation. It was the beginning of the end of the laudable pus period. Listerism was just coming into practice, and Dr. Halley, of Kansas City, will recall my holding the carbolized spray on the wound when he operated and the spray wetting him like fine rain. Later, other antiseptics took the place of the carbolic acid spray, with many deaths resulting from the strong antiseptics. Later, and best of all, asepsis was advocated and is now almost universally practiced. During the Civil War, maggots were relied upon to cleanse old suppurating stinking wounds. At any rate, I heard an old army surgeon in a medical society say that he used them and got good results.—?—?—?—?

It was the beginning of small dosage. One tenth grain of calomel was surreptitiously used by some physicians in regular medicine. Although by the dyed in the wood Regular it was considered the unpardonable sin. One of the oldest and brainiest and best posted physicians now living in Topeka, Kansas, told me that when he began the practice of medicine he carried a teaspoon to dish out the calomel with and a teaspoonful was the dose. He is a minimizer to-day, and no physician gives smaller doses than he does, and no one gets better results. Smaller doses and less medicine would save more lives yet.

It was the beginning of the esthetic and cosmetic age of medicine, as well as the gustatory. Pharmaceutical houses began to vie with each other in putting up medicine in form to look pretty, to be accurate in dosage, and to be takeable or palatable. The medical profession, as well as the laity, is under great obligations to the honorable chemical pharmacist.

The medical profession was handicapped in those days, as well as in the present day, by its environments. The doctor then, as now, was the victim of circumstances. He was not and is not now a free moral agent. He could not do as his judgment dictated and hold his practice. He had to deceive his patient! We called it deception or committing a moral wrong (lying), that physical good might result. We are glad that, while the necessity for such practice remains, the late generation of physicians do not have to lie or deceive, but practice suggestive therapeutics; the patient gets well, and the doctor is freed from a multitude of sins.

Although the dawn of the medical morning was beginning to light up the practice of medicine and surgery, we did not fully appreciate that fresh air, sunlight, water, earth and fire were the greatest conservators of health and life. The worth of the elements is more fully realized by this generation of physicians, and more generally enforced with gratifying results.

Dietetics, especially in continued fevers, was starvation. Although purging and blood-letting was on the wane. Someone may think that these few reminiscences being true, the former generation of physicians, or the medical profession as a whole, did not know much medicine forty years ago. That is true so far as conserving health and prolonging life was concerned; but it was all that was known, and it is the foundation upon which the profession of the present had to build.

The advance made by the medical professionin this generation has been by elimination and prevention. By elimination is meant giving none or less medicine and letting their patients have a chance to get well. By preventation is meant to avoid the source or causes of disease by keeping away from or conforming our lives to the laws of our physical and mental existence. Bathing in the sunshine, washing our bodies in clean water, breathing fresh air, destroying by fire all soiled clothing, wrappings or receptacles that cannot otherwise be rendered aseptic, and digging a little in mother earth, that we may get a scent of fresh earth from which our bodies came—the original elements. In doing so, we conform more nearly to what we are, we give Nature a chance, and our physical condition being normal our mental faculties are at their best.

If I were to begin the study of medicine again, I would let physic be the last study. I would study the laws of my physical and mental existence, and by so doing learn how to live, and thus be ready and qualified to teach and treat others—my patients. Selah!

COMMUNICATIONS.

Abilene, Kansas, 5-30-'10

To the Editor of "The Journal," Kansas City, Kansas.

Dear Sir:—

In the May number of "The Journal" I notice a letter from Dr. K. B. Ford of Wichita, reporting a case of hookworm disease occuring in his practice as being, as he believes, the first case of Uncinariasis reported in this state.

At the 15th anniversary of the Golden Belt Medical Society, held in Abilene April 7th 1904, the late Dr. E. B. LaFevre of this city read a valuable paper on this subject and reported a marked case occuring in a tramp who had been working in the gumbo pit of the U. P. R. R. west of Solomon. Among those who discussed the paper were two army surgeons stationed at Fort Riley who had treated such cases in the Philippines.

Respectfully,

EDW. E. HAZLETT.

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Obituary.

Henry Lisle, M. D. Medical College of Ohio, Cincinnati; who retired from practice in 1874; died at his home in Chetopa, Kan., March 1, from senile debility, aged 89.

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Isaac H. Dix, M. D., Cleveland University of Medicine and Surgery, 1869; of Pratt, Kan; died at the home of his daughter in Salina, Kans., March 20, from influenza, aged 63.

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W. H. Blankinship, M. D. Western Eclectic Medical College of Medicine and Surgery, Kansas City, Kan., 1908; died at his home in Umpire ,Kan., May 15, from pneumonia, aged 28.

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Arthur Steele Andrews, M. D., Electic Medical Institute, Cincinnati, 1875; formerly president of the Washington (Kan.) National Bank; died at his home in Topeka Kan.,, May 19, from nephritis, aged 59.

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CLINICAL NOTES

Hematuria from stone in the bladder is usually moderate and produced or increased by bodily movements, while persistent and profuse vesical hemorrhage, uninfluenced by physical exertion, points to the presence of tumor.—International Journal Surgery.

By constipating the patient, a high-seated rectal carcinoma may be pushed down within reach of the examining finger in the rectum. A small enema may balloon such a tumor within reach of abdominal palpation.—American Journal Surgery.

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Preparatory to, and following operations upon the brain or spinal cord hexamethylenamene ("urotropin") should be administered in liberal doses; Crowe has shown that formaldehyde then appears in the cerebrospinal fluid, and thereby minimizes the danger of infection.

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The Pneumococcus in the Conjunctival Secretion in Pneumonia.—Crispolti, Policlinico, Rome, Fby' 27, found pneumococci in the conjunctival secretion in 40 out of 45 cases of pneumonia. They were numerous during the first five days but then became rarer and atypical forms predominated. In the 5 cases in which the conjunctival secretion contained no pneumococci, none was found in the sputum, and the pneumonia was probably due to some other germ, probably the influenza bacillus.—Journal A. M. A.

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Hegar's Sign of Pregnancy not Reliable.—De Bovis (Semaine Medicale, Paris, March 2), asserts that softening of the isthmus of the uterus cannot be regarded as pathognomonic of pregnancy as it has been encountered with a myomatous uterus. The softening may vary widely in intensity, extent and location. Hemorrhages should not be accepted as evidence for or against the presence of a myoma. In three cases in his experience the women had hemorrhages more or less continouusly for one, three and five months and were then delivered of a dead or living foetus; no trace of a myoma could be discovered.—Journal A. M. A.

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Tampon for Nasal Hemmorrhage.—M. D. Stevenson, Akron, Ohio (Journal A. M. A., June 4), uses a tampon composed of compressed cotton modified from Simpson's tampon, three inches long by one-half inch wide by one-sixteenth thick, wrapped as in a cigarette with gutta percha tissue. the free edge being gummed down by some sterile ointment except at the ends. These smooth surfaced tampons are easily and usually painlessly removed, and he thinks they are much better than trusting to local medicinal applications in cases of postoperative hemorrhage. Sterile water or salt solution should be dropped at the ends to cause the tampon to swell and fill the passage. Two can be used side by side in very wide fossa and they can readily be narrowed by clipping.